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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/588,548 | 06/07/2000 | Eiji Suematsu | 0033-0662P | 9172 |

7590 02/02/2004

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EXAMINER

NGUYEN, DUC M

ART UNIT PAPER NUMBER

2685

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/588,548

Applicant(s)

Suematsu

Examiner

Duc M. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Nov 20, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above, claim(s) 1, 3-11, and 17-45 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-16 is/are allowed.
- 6) ☒ Claim(s) 2 is/are rejected.
- 7) ☐ Claim(s) is/are objected to.
- 8) ☐ Claims are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s).
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other:

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DETAILED ACTION

This action is in response to applicant's response filed on 11/20/03. Claims 1-45 are now pending in the present application.

Election/Restriction

1. Applicant's election with traverse of the Restriction requirement in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the dual-band transmitter and the dual-band receiver belong to a single specifies because the receiver is configured to respond to a signal from the transmitter. This is not found persuasive because the transmitter and the receiver are related as subcombinations disclosed as usable together in a single combination, whereas the receiver could be configured to respond to signals from more than one transmitter, not necessarily from a single transmitter. For example, a mobile device can be configured to transmit/receive RF signals for two-way communications, receive GPS signals for navigation, and receive AM/FM radio signals for entertainment. Hence, since the transmitter and the receiver of a device are different components and can be configured independently or separately, the requirement is still deemed proper and is therefore made FINAL.

2. Since Applicant has conditionally elected claims 2, 12-16 (dual band receiver) in Paper No. 6, Group I includes claims 1, 4-11 (dual band transmitter); Group II includes claims 1, 25-32 (tri band transmitter); Group IV includes claims 2, 33-37 (tri band receiver), Group V includes claims 3, 17-24 (dual band transceiver) and Group VI includes claims 3, 38-45 (tri band

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transceiver) are withdrawn from further consideration by the examiner as being for the nonelected invention. An action for Group III (claims 2, 12-16) follows.

Information Disclosure Statement

3. The references listed in the information disclosure statements submitted on 8/8/00 have been considered by the examiner (see attached PTO-1449).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable by **Renard et al** (US Patent Number 6,081,691).

Regarding claim 2, **Renard** discloses a receiver comprising :

- a reception circuit receiving a multiplex signal as claimed (see Fig. 3, col. 8, lines 37-59 and col. 13, lines 7-20). Here, it is clear that the GLONASS and GPS are multiplex signals (frequency or time multiplexing signals) and the modulation signal wave is arranged on a frequency axis independent of each other.

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- a frequency down-converter for down converting the multiplex signal as claimed (see Fig. 1, ref. 20).

- a frequency rearranging circuit dividing the down-converted multiplex signal while frequency down-converting at least one modulation signal for restore as claimed (see Fig. 1, refs. 2, 24, 30 and Fig. 3).

Here, although the multiplex signals for GPS and GLONASS are in the micro-wave range (i.e, MHZ), it would have been obvious to one skill in the art to modify the receiver in **Renard's** reference to receive multiplexed signals in the millimeter-wave range as well, for utilizing advantages provided by millimeter-wave band transmission system such as cost.

Allowable Subject Matter

6. Claims 12-16 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 12, the cited prior art fails to disclose or made it obvious a method or apparatus for a millimeter-wave receiver which comprises steps and components as specified in the claim, wherein a common frequency conversion circuit and two parallel receiving circuits are used for demodulation the multiplex signal modulated with two LO signals (see Fig. 1B).

Conclusion

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7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Tanabe** (US Patent Number 4,361,728), Multiplex signal receiver.

- **Dolle et al** (US Patent Number 6,609,010), Dual frequency band transceiver.

- **Kiyanagi et al** (US Patent Number 6,185,201), Multiplex radio transmitter and multiplex radio transmission method, multiplex radio receiver and multiplex radio receiving method, and multiplex radio transceiver and multiplex radio transmission/receiving method,.

8. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for formal communications intended for entry)

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or communications from the examiner should be directed to Duc M. Nguyen whose telephone number is (703) 306-4531, Monday-Thursday. Or to Edward Urban (Supervisor) whose telephone number is (703) 305-4385.

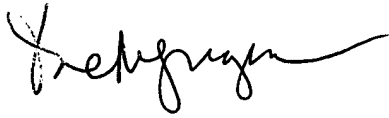
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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Duc Nguyen

A handwritten signature in black ink, appearing to read 'Duc Nguyen', with a long horizontal flourish extending to the right.

January 24, 2004